

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



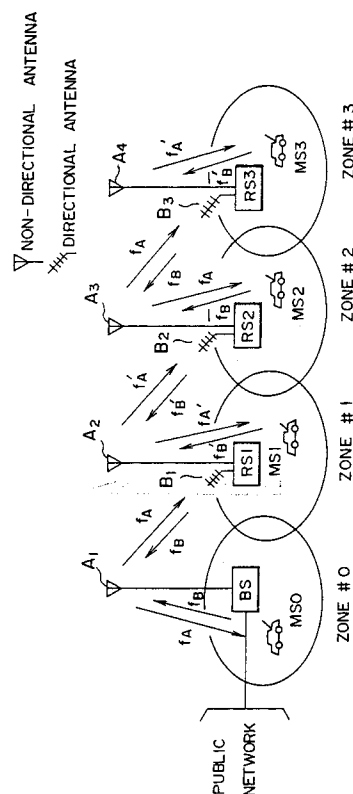
(11) Publication number:

0 523 687 A3

(12)

EUROPEAN PATENT APPLICATION(21) Application number: **92112131.5**(51) Int. Cl.⁵: **H04B 7/26, H04B 7/15, H04Q 7/04**(22) Date of filing: **16.07.92**(30) Priority: **18.07.91 JP 203850/91**(43) Date of publication of application:
20.01.93 Bulletin 93/03(84) Designated Contracting States:
DE FR GB IT(88) Date of deferred publication of the search report:
30.06.93 Bulletin 93/26(71) Applicant: **FUJITSU LIMITED**
1015, Kamikodanaka Nakahara-ku
Kawasaki-shi Kanagawa 211(JP)(72) Inventor: **Masuda, Hajime, c/o FUJITSU LIMITED**
1015, Kamikodanaka, Nakahara-ku
Kawasaki-shi, Kanagawa 211(JP)(74) Representative: **Lehn, Werner, Dipl.-Ing. et al Hoffmann, Eitle & Partner Patentanwälte**
Arabellastrasse 4
W-8000 München 81 (DE)(54) **Mobile telecommunication system having an expanded operational zone.**

(57) A mobile telecommunication system comprises a base station (BS) connected to a public communication network and having a non-directional antenna (A_1) for broadcasting at a first frequency (f_A) over a first operational zone (#0) and for receiving a radio transmission at a second frequency (f_B), a relay station (RS_1) provided outside the first operational zone and having a directional antenna (B_1) directed to the non-directional antenna of the base station for receiving the broadcast therefrom and for transmitting thereto at the second frequency, the relay station further having a non-directional antenna (A_2) for broadcasting at a third frequency ($f_{A'}$) over a second operational zone and for receiving a radio transmission at a fourth frequency ($f_{B'}$), and a mobile terminal movable between the first and second operational zones. The mobile terminal receives the broadcast from either of the base station and the relay station at either of the first and third frequencies and transmit at either of the second and fourth frequencies, wherein the mobile terminal monitors the strength of electric field of the broadcast from the base station and the relay station and selects the station to which the mobile terminal communicates in response to the strength of the electric field.

FIG. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 11 2131

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 972 456 (KACZMAREK ET AL.) * column 4, line 47 - column 5, line 23 * * column 6, line 65 - column 7, line 23 * ---	1-5	H04B7/26 H04B7/15 H04Q7/04
A	EP-A-0 406 905 (ORION INDUSTRIES INC.) * column 3, line 44 - column 4, line 13 * * column 5, line 19 - column 7, line 30 * * column 9, line 1 - line 51 * ---	1-4	
A	EP-A-0 418 103 (PCN ONE LIMITED) * column 2, line 35 - line 51 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H04Q H04B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 APRIL 1993	Examiner BEHRINGER L.V.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	